

## **REMARKS**

### **I. Introduction**

Claims 3-9 are currently pending in the present application and remain rejected. Claim 3 has been amended. In view of the foregoing amendments and the following explanations, Applicant submits that pending claims 3-9 are in allowable condition.

Applicant note with appreciation the acknowledgment of the claim for foreign priority and the indication that all certified copies of the priority documents have been received. Applicant also notes with appreciation the Examiner's acceptance of drawings which were previously submitted.

### **II. Objections to Drawings**

In response to the drawing objections, Applicant have attached replacement drawings sheets. Among other changes, Figs. 1a and 1b have been amended to include characters "A" and "B" to indicate the upper ring and the lower ring, respectively, of the heavy mobile base 1.2. In addition, as explained in the "Amendments to the Drawings" section on page 4 of this paper, other changes have been made to the drawings to provide consistency between the Substitute Specification and the drawings.

### **III. Specification**

In response to the Examiner's objection to the disclosure, reference numeral "3" has been added in Fig. 3 to indicate the "threads" mentioned on page 5, line 19 of the Substitute Specification. Reference numeral 3 has been also added to the Substitute Specification. Withdrawal of the objection is respectfully requested.

### **IV. Claim Objections**

In response to the Examiner's objection to claim 3, Applicant has corrected the informality noted by the Examiner.

**V. Rejection of Claim 3 under 35 U.S.C. § 112, first paragraph**

Claim 3 is rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. In particular, the Examiner contends that “Claim 3 has the element of an intervening ring, which is not shown/labeled in the drawings, and will be interpreted as any circular means for support.” Applicant notes that the “intervening ring” feature is clearly described in the Substitute Specification, e.g., the paragraph beginning on page 4, line 34, and the paragraph beginning on page 5, line 30. In order to obviate any further issues, Fig. 1a has been amended to show the sequence of rings D1 and D2, which clearly shows the “intervening ring” feature recited in claim 3. For at least these reasons, the non-enablement rejection, as well as the interpretation of “intervening ring” as “any circular means for support,” should be withdrawn.

**VI. Rejection of Claim 3-4 and 7-9 under 35 U.S.C. § 103(a)**

Claims 3-4 and 7-9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,527,216 (“Senanayake ‘216”) in view of WO 96/04443 (“Senanayake ‘443”). Applicant respectfully submits that the rejection should be withdrawn for at least the following reasons.

In rejecting a claim under 35 U.S.C. § 103(a), the Examiner bears the initial burden of presenting a *prima facie* case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish a *prima facie* case of obviousness, the Examiner must show, *inter alia*, that there is some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the references, and that, when so modified or combined, the prior art teaches or suggests all of the claim limitations. M.P.E.P. §2143. In addition, as clearly indicated by the Supreme Court, it is “important to identify a reason that would have prompted a person of ordinary skill in the relevant field to [modify] the [prior art] elements” in the manner claimed. See KSR Int’l Co. v. Teleflex, Inc., 82 U.S.P.Q.2d 1385 (2007). In this regard, the Supreme Court further noted that “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” Id., at 1396. To the extent that the Examiner may be relying on the doctrine of inherent disclosure

in support of the obviousness rejection, the Examiner must provide a “basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of the applied art.” (See M.P.E.P. § 2112; emphasis in original; see also Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990)).

Amended claim 3 recites, in relevant parts, the following:

An adjustable **free-standing, floating solar chimney**, comprising:

a main chimney unit **configured to be substantially tiltable with respect to the vertical axis, the main chimney unit** including a plurality of dynamically independent floating parts, . . . wherein each dynamically independent floating part is separated from the adjacent dynamically independent floating part by an intervening balloon ring configured to freely draw in and emit air, whereby each dynamically independent floating part is enabled to move independently of adjacent dynamically independent floating parts **to achieve an incline angle with respect to the vertical axis independent of incline angles of adjacent floating parts**;

a base unit coupled to the main chimney unit, wherein each dynamically independent floating part of the main chimney unit is independently, fixedly connected to the base unit, and wherein the base unit includes an upper ring and a lower ring having equal weight and different exterior diameters, and wherein the upper ring and the lower ring are fixedly tied, and wherein the total weight of the base unit is larger than the net lift force of the main chimney unit;

a **dynamically variable folding unit** coupled to the base unit, wherein the dynamically variable folding unit is fastened to the lower ring of the base unit and has a **flexible, accordion-like configuration**, and wherein the dynamically variable folding unit includes a plurality of balloon rings and a plurality of supporting rings, and wherein the plurality of balloon rings of the dynamically variable folding unit each have one of an aperture and a valve configured to freely draw in and emit ambient air, whereby **the dynamically variable folding unit is configured to bend in accordance with the orientation of the main chimney unit and the base unit**; and

a chimney seat configured to accommodate the base unit and the dynamically variable folding unit, wherein at least a portion of the base unit is seated on the top portion of the chimney seat, and wherein **at least a portion of the dynamically variable folding unit is contained within the chimney seat**,

and wherein an exterior diameter of the upper ring is larger than an exterior diameter of the chimney seat, and an exterior diameter of the lower ring is smaller than an internal diameter of the chimney seat.

First, in contrast to the claimed subject matter of “**free-standing, floating solar chimney**,” Senanayake ‘216 and Senanayake ‘443 both teach **a tethered** chimney: in Senanayake ‘216 the chimney is anchored to the ground by guy ropes 5 and 6 (Fig. 1; col. 2, l. 47-54); in Senanayake ‘443 the chimney is anchored to the ground by guy ropes 13 and 19 (Fig. 1; p. 4, l. 25-27; p. 5, l. 7-10). Accordingly, the overall teachings of Senanayake ‘216 and Senanayake ‘443 clearly do not suggest a “**free-standing, floating solar chimney**.”

Second, because Senanayake ‘216 and Senanayake ‘443 both teach **a tethered** chimney, these references clearly do not suggest “a main chimney unit **configured to be substantially tiltable with respect to the vertical axis**.” Senanayake ‘216 clearly discloses that the “guy ropes retain the **chimney substantially vertical**,” with only limited movement against strong lateral wind forces. (Col. 2, l. 52-54). In Senanayake ‘443, there is no suggestion that the tethered chimney is in any way allowed to tilt with respect to the vertical axis.” In fact, the essential design element of both Senanayake ‘216 and Senanayake ‘443 is to provide an air passage from the outside of the chimney to the inside of the chimney so that the chimney can withstand lateral wind force and not tilt. In Senanayake ‘216, the air passage is achieved by having individual chimney segment “flex resiliently inward under the action of wind force,” so that the “wind can flow into an erected chimney to be deflected in an upward direction, toward the open mouth of the chimney.” (Col. 1, l. 66 – col. 2, l. 4). Similarly, Senanayake ‘443 provides apertures 21 and 22 in the side panels 20 of the chimney so that lateral wind is channeled through the apertures, i.e., “wind entering though the large aperture 21 will be deflected inwardly and upwardly into the chimney 10” (p. 6, l. 17-19), which arrangement enables “the chimney [to] withstand high lateral wind forces” (p. 3, l. 17-20). Accordingly, the overall teachings of Senanayake ‘216 and Senanayake ‘443 clearly do not suggest “a main chimney unit **configured to be substantially tiltable with respect to the vertical axis**.”

Third, to the extent the Examiner contends that the claimed term “chimney seat” is “interpreted to be a grounding means for the entire structure,” and that the **guy wire 6** of

Senanayake '216 satisfies this asserted interpretation of claimed "chimney seat," Applicant notes that this asserted interpretation is clearly erroneous since there is no way the guy wire 6 of Senanayake '216 can possibly satisfy the limitation that "at least a portion of the base unit is seated on the top portion of the chimney seat, and wherein at least a portion of the dynamically variable folding unit is contained within the chimney seat." In any case, there is no reasonable basis to contend that one of ordinary skill in the art would interpret the claimed "chimney seat" as being satisfied by a guy wire, particularly when the claimed term is interpreted in light of the present specification.

Fourth, to the extent the Examiner contends that Senanayake '443 teaches (a) "support unit having an accordion-like structure," and (b) "if [the support unit of Senanayake '443 is] used to modify Senanayake '216, would allow for flexible movement of the chimney unit . . . and whereby the dynamically variable folding unit is configured to bend in accordance with the orientation of the main chimney unit and the base unit," both of these assertions made by the Examiner are clearly erroneous. In the claimed limitations of claim 3, the "accordion-like configuration" describes the "dynamically variable folding unit coupled to the base unit." However, in contrast to the claimed limitation, there is clearly no "accordion-like configuration" (i.e., a configuration that can be expanded and/or compressed) shown in Senanayake '443; instead, Senanayake '443 merely discloses individual apertures 21 and 22 within the panels 20, but the overall structure of the chimney unit 10 is structurally static due to the guy ropes 13/19 and the air passage created by the apertures 21 and 22. Furthermore, the modification asserted by the Examiner cannot possibly result in any "dynamically variable folding unit . . . configured to bend in accordance with the orientation of the main chimney unit and the base unit," since both Senanayake '216 and Senanayake '443 teach a tethered chimney which cannot move to any significant degree.

Fifth, to the extent the Examiner contends that "the base unit and chimney seat as further claimed is considered to be a design choice, since no specific advantage is given," Applicant notes that this assertion is a completely unsupported, self-serving conclusion which is factually incorrect. The claimed limitations include "a chimney seat configured to accommodate the base unit and the dynamically variable folding unit, wherein at least a portion of the base unit is seated on the top portion of the chimney seat, and wherein at least a portion of the dynamically variable folding unit is contained within the chimney seat, and wherein an exterior diameter of the upper ring is larger than an exterior diameter of

the chimney seat, and an exterior diameter of the lower ring is smaller than an internal diameter of the chimney seat.” In contrast to the Examiner’s assertion, the above-recited claimed limitation regarding the interface of the chimney seat, the base unit and the dynamically variable folding unit provides the advantage of enabling implementation of a **“free-standing, floating solar chimney”** having both “a main chimney unit **configured to be substantially tiltable with respect to the vertical axis**” and a **“dynamically variable folding unit . . . configured to bend in accordance with the orientation of the main chimney unit and the base unit.”**

In addition to the above, there is clearly no suggestion in the overall teachings of Senanayake '216 and Senanayake '443 regarding the claimed limitation of “a chimney seat configured to accommodate the base unit and the dynamically variable folding unit, wherein at least a portion of the base unit is **seated on the top portion of the chimney seat**, and wherein **at least a portion of the dynamically variable folding unit is contained within the chimney seat**, and wherein an exterior diameter of the upper ring is larger than an exterior diameter of the chimney seat, and an exterior diameter of the lower ring is smaller than an internal diameter of the chimney seat,” and therefore there is absolutely no basis for the Examiner’s contention that it would have been obvious to “arrange the base unit and the chimney seat unit as claimed because [one of ordinary skill in the art] would have the knowledge of different possible designs for the solar chimney while providing the same functionality as can be seen by Senanayake.”

Independent of the above, there is simply no suggestion in the applied references regarding the claimed limitation of claim 3 that “each dynamically independent floating part is enabled to move independently of adjacent dynamically independent floating parts **to achieve an incline angle with respect to the vertical axis independent of incline angles of adjacent floating parts.**”

For at least the foregoing reasons, claim 3 and its dependent claims 4 and 7-9 are allowable over the overall teachings of Senanayake '216 and Senanayake '443. Withdrawal of the obviousness rejection is requested.

## VII. Rejection of Claims 5 and 6 under 35 U.S.C. § 103(a)

Claims 5 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Senanayake '216 in view of Senanayake '443, and further in view of U.S. Patent No. 3,918,518 ("James"). Applicant respectfully submits that the rejection should be withdrawn for at least the following reasons.

In rejecting a claim under 35 U.S.C. § 103(a), the Examiner bears the initial burden of presenting a *prima facie* case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish a *prima facie* case of obviousness, the Examiner must show, *inter alia*, that there is some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the references, and that, when so modified or combined, the prior art teaches or suggests all of the claim limitations. M.P.E.P. §2143. In addition, as clearly indicated by the Supreme Court, it is "important to identify a reason that would have prompted a person of ordinary skill in the relevant field to [modify] the [prior art] elements" in the manner claimed. See KSR Int'l Co. v. Teleflex, Inc., 82 U.S.P.Q.2d 1385 (2007). In this regard, the Supreme Court further noted that "rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." Id., at 1396. To the extent that the Examiner may be relying on the doctrine of inherent disclosure in support of the obviousness rejection, the Examiner must provide a "basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of the applied art." (See M.P.E.P. § 2112; emphasis in original; see also Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990)).

Claims 5 and 6 depend on claim 3. As discussed in detail in connection with claim 3, the overall teachings of Senanayake '216 and Senanayake '443 do not render obvious parent claim 3. In addition, the teachings of James clearly do not remedy the deficiencies of the teachings of Senanayake '216 and Senanayake '443 as applied against parent claim 3. Accordingly, the overall teachings of Senanayake '216, Senanayake '443 and James cannot render dependent claims 5 and 6 obvious. Withdrawal of the obviousness rejection is

requested.

### VIII. CONCLUSION

In view of all of the above, it is respectfully submitted that all of the presently pending claims 3-9 are in allowable condition. Prompt reconsideration and allowance of the application are respectfully requested.

Respectfully submitted,

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Dated: September 25, 2009

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